

Notice of Allowability

Application No.

10/736,765

Examiner

Richard Franklin

Applicant(s)

HUGGAHALLI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 16 January 2007.
2. ☒ The allowed claim(s) is/are 1-5, 8-14, 20 and 21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Patrick Buckley (Reg. No. 40,928) on 14 March 2007.

2. The application has been amended as follows:

3. Amend claim 1 to recite:

"A method, comprising:

determining at a requesting agent processor that Input Output (IO) traffic is to be received at a target processor cache of a target processor, wherein the target processor is different than the requesting agent processor;

receiving at a write agent, from the requesting agent processor, routing information associated with the IO traffic;

arranging by the write agent for information packets of the IO traffic to be transferred directly into the target processor cache in accordance with the routing information; wherein the write agent is different than the requesting agent processor and the target processor and comprises at least one of: (i) a direct memory access controller, or (ii) a IO controller hub; and

transferring, by the write agent, status information associated with the IO traffic directly into a requesting agent cache of the requesting agent processor.”

4. Amend claim 12 to recite:

“An article, comprising:

a first computer-readable storage medium having stored thereon instructions that when executed by a machine result in the following:

determining at a requesting agent processor that Input Output (IO) traffic is to be received at a target processor cache of a target processor, wherein the target processor is different than the requesting agent processor;

a second computer-readable storage medium having stored thereon instructions that when executed by a machine result in the following:

receiving from the requesting agent processor routing information associated with the IO traffic;

arranging by a write agent for information packets of the IO traffic to be transferred directly into the target processor cache in accordance with the routing information, wherein the write agent is different than the requesting agent processor and the target processor and comprises an IO controller hub; and

transferring, by the write agent, status information associated with the IO traffic directly into a requesting agent cache of the requesting agent processor.”

DETAILED ACTION

5. Claims 1 – 5, 8 – 14, and 20 – 21 are pending.

Allowable Subject Matter

6. Claims 1 – 5, 8 – 14, and 20 – 21 are allowed.

7. The following is an examiner's statement of reasons for allowance:

Claims 1 – 5, and 8 – 14 are allowed because the prior art of record fails to teach or suggest alone or in combination ***transferring, by the write agent, status information associated with the IO traffic directly into a requesting agent cache of the requesting agent processor***, as required by independent claims 1 and 12, ***in combination with the other recited claim limitations*** (emphasis added). Support for this limitation can be found in the specification of the current application on page 7 line 25 – page 8 line 12 and in figure 6. US Patent Application Publication No. 2004/0148473 (hereinafter Hughes) teaches a system that writes IO data directly into the cache of a target processor when a certain flag is set (Hughes; Figure 5). However, Hughes is silent writing the status of the IO data transfer directly into a requesting agent cache of the requesting agent. This fact is asserted by the Applicant in page 7 paragraph 6 of the response filed 16 January 2007.

Claims 20 – 21 are allowed because the prior art of record fails to teach or suggest alone or in combination ***a processing element to arrange for status information associated with the IO traffic to be transferred directly into the***

requesting agent cache, as required by independent claim 21, ***in combination with the other recited claim limitations*** (emphasis added). Support for this limitation can be found in the specification of the current application on page 7 line 25 – page 8 line 12 and in figure 6. US Patent Application Publication No. 2004/0148473 (hereinafter Hughes) teaches a system that writes IO data directly into the cache of a target processor when a certain flag is set (Hughes; Figure 5). However, Hughes is silent writing the status of the IO data transfer directly into a requesting agent cache of the requesting agent. This fact is asserted by the Applicant in page 7 paragraph 6 the response filed 16 January 2007.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Franklin
Patent Examiner
Art Unit 2181



DONALD SPARKS
SUPERVISORY PATENT EXAMINER